

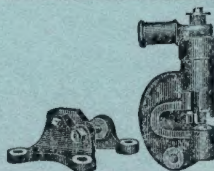
Should your customer ask to punch a certain size hole in a certain thickness refer to this chart in recommending to him what number Punch to use.

Example No. 10 Ball Bearing, Capacity $\frac{3}{8}$ " hole in $\frac{1}{4}$ " iron pounds pressure 14,700 Pounds, etc.

Pressure required to punch 0.25 Carbon Steel of 65,000 Pounds per Square Inch Tensile Strength

Circumference of Hole \times Thickness of Plate (both in inches) \times 50,000 = Pressure required in Pounds, approximately.

Gauge of Plate, Inches	Diameter of Punch, Inches														
	$1\frac{1}{4}$	$1\frac{3}{8}$	1	$\frac{15}{16}$	$\frac{3}{4}$	$\frac{13}{16}$	$\frac{3}{4}$	$\frac{11}{16}$	$\frac{5}{8}$	$\frac{9}{16}$	$\frac{1}{2}$	$\frac{7}{16}$	$\frac{3}{8}$	$\frac{5}{16}$	$\frac{1}{4}$
$\frac{3}{8}$	24600	22100	19600	18400	17200	16000	14700	13500	12300	11100	9800	8600	7400	6100	4900
$\frac{7}{16}$	36800	33100	29500	27600	25800	24000	22100	20300	18400	16600	14700	12900	11000	9200	7300
$\frac{1}{4}$	49100	44200	39300	36800	34400	32000	29500	27000	24500	22100	19600	17200	14700	12300	9800
$\frac{5}{16}$	61400	55200	49100	46000	42900	39900	36800	33800	30700	27600	24500	21500	18400	15300	12300
$\frac{3}{8}$	73600	66300	58900	55200	51500	47900	44200	40500	36800	33200	29500	25800	22100	18400	14700
$\frac{7}{16}$	85900	77300	68700	64400	60100	55900	51500	47300	42900	38600	34400	30100	25800	21400	.....
$\frac{1}{2}$	98200	88400	78500	73600	68700	63800	58900	54000	49100	44200	39300	34400	29600	.....	.....
$\frac{5}{8}$	110400	99400	88400	82800	77300	71800	66200	60800	55200	49700	44200	38700	.....	.....	.....
$\frac{3}{4}$	122700	110400	98200	92000	85900	79800	73600	67500	61400	55300	49100	.....	.....	.....	.....
$1\frac{1}{8}$	135000	121400	108000	101200	94500	87800	81000	74300	67500	60900	.....	.....	.....	.....	.....
$\frac{7}{8}$	147300	132500	117800	110400	103100	95800	88400	81000	73600	.....	.....	.....	.....	.....	.....
$1\frac{1}{4}$	159500	143500	127600	119600	111700	103700	95700	87800	.....	.....	.....	.....	.....	.....	.....
$\frac{3}{8}$	171800	154600	137400	128800	120300	111700	103100	.....	.....	.....	.....	.....	.....	.....	.....
$\frac{7}{16}$	184100	165600	147200	138000	128800	119700	.....	.....	.....	.....	.....	.....	.....	.....	.....
	196400	176700	157100	147200	137400	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
$1\frac{3}{8}$	220900	198800	176700	165600	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
$1\frac{1}{2}$	245400	220900	196400	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....



Ball Bearing Punch
No. 20